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Title: Adjustable Garment Hanger

The present invention relates to garment hangers, and more particularly to an adjustable garment hanger having width adjustable shoulder portions and clamping means for securement of appropriate garment articles.

Conventional wire frame or wooden coat hangers, though satisfactory in many respects, do have a number of drawbacks. Not least of which is that, as the sloping shoulder supports are of a fixed length, an oversized upper garment such as a shirt or suit may not be adequately supported over the shoulder portions. As a result the fabric thereon would sag and become creased or wrinkled. Similarly, the upper sleeve portions of an undersized garment would also be ill-disposed. Further, though lower garment articles such as pants and trousers can be carried by a conventional clothes hanger by folding it over the lower cross bar thereof, there is a tendency for the garment to slide off its support unless secured thereon by an external device such as a clothespin.

The garment hanger of the present invention overcomes or substantially mitigates these and other shortcomings in conventional types of clothes hangers.

The present invention has as a first object to provide a garment hanger provided with width adjustable shoulder portions for accommodating shirts,

suits, and related garments of varying size, and a clamping holder frame for reliably carrying pants, trousers, and similar garments.

In accordance therewith, an adjustable garment hanger comprises a dihedral support frame having a pair of elongate lateral members joined at the inner ends and defining an obtuse angle, a

clamping frame provided under the support frame, and a pair of elongate rounded shoulder members slidably mounted over the outer portions of respective lateral members thereof.

The position of each shoulder member depends on an elastic finger engaged among a row of catch recesses provided in a side portion of a corresponding lateral member, with the shoulder member being slidably positionable thereon to adjust the lateral width of the hanger and accommodate shirts or suits of varying size.

The clamping frame includes two vertical bars adjoined to the undersides of respective lateral members, a transverse bar connecting the lower ends of the vertical bars, and an elongate clamping member slidably mounted over the transverse bar and parallel therewith. Reentrant slots formed on each end of the transverse bar are slidably engaged with corresponding cavities formed along the front sides of either vertical bar. A similar row of catches and an elastic positioning protrusion are also provided in each cavity and on each end of the clamping member respectively, so as to enable the slide positioning of the clamping member relative to the transverse bar. Garments such as pants and trousers can be folded over the transverse bar and held in place by the clamping member.

To facilitate attachment of the garment hanger to a horizontal holding rod, a hook shaped holder is swivelably attached above the apex of the support frame thereof.

A further object of the present invention is to provide means for carrying relatively small garment articles such as socks and ties. To this end, a generally bracket shaped auxiliary frame is provided under the support frame, being disposed congruently within the periphery of the clamping frame,

and over which small garment articles can be folded.

To achieve yet another object of the present invention, a pair of hooking appendages are formed on respective ends of the transverse bar, extending outwardly therefrom, so that skirts or similar garment articles may be appropriately carried by the hanger.

A second major objective of the present invention is to provide an inexpensive attachment to a conventional wire formed clothes hanger that provides the aforementioned function of width adjustability for the shoulder supports thereof, and that also carries clothes pin type clamps for the secure holding of a variety of garments.

Accordingly, a coat hanger attachment, of which one is required for each sloping shoulder support of a wire coat hanger, comprises an elongate attachment member having an axial slot formed along the underside thereof, an elongate slide member slidably mounted over the attachment member, and a swivelable clamping appendage attached to an inner end of the attachment member.

The axial slot is adapted for frictional engagement with the wire frame of a corresponding shoulder support when the attachment member is slid onto the outer portion thereof. The slide member is slidably positioned on the attachment member which also includes a row of catch recesses engageable with a corresponding elastic finger therein, and can be extended outwards past the outer end of the attachment member to increase the width of the hanger.

The elongate clamping appendage can be rotated to a vertical position wherein a notched step thereon would engage the lower cross wire of the hanger to reinforce its structure. A clothes pin type clamp provided on the lower portion of the appendage would then be disposed below the cross wire and could be used to carry various garments dangled therefrom.

A more complete understanding of the present invention will be obtained by referring to a detailed description of the preferred exemplary embodiments thereof provided below along with accompanying drawings wherein:

Fig. 1 is a perspective view showing a disassembled first embodiment of the garment hanger structure of the present invention.

Fig. 2 is a perspective view showing the assembled first embodiment of the garment hanger structure.

Fig. 3 is a partially sectional side view taken along line 1-1 of Fig. 2, showing an elongate lateral member and a telescoping shoulder member slidably mounted thereover.

Fig. 4 is a sectional view taken along line 2-2 of Fig. 2, showing a cross section of a shoulder member mounted on a lateral member.

Fig. 5 is a bottom plan view of a shoulder member.

Fig. 6 is a sectional view taken along line 3-3 of Fig. 2, showing a cross section of a vertical bar of a clamping frame with an end of an elongate clamping member thereof slidably engaged therewith.

Fig. 7 is a frontal view showing an upper body garment and lower body garment carried by corresponding members of the garment hanger.

Fig. 8 is a frontal view showing a skirt type garment carried by hooking appendages provided below the transverse bar of the clamping frame.

Fig. 9 is a perspective view showing a second embodiment of the garment hanger of the present invention mounted on a conventional wire frame clothes hanger.

Fig. 10 is a sectional view taken along line 4-4 of Fig. 9, showing a cross-section of a slide member mounted over an attachment member with a

shoulder support wire disposed therein.

Fig. 11 is a bottom plan view of a slide member.

Fig. 12 is a sectional view taken along line 5-5 of Fig. 9, showing a cross-section of a clamping appendage pivotably secured to an end of the attachment member.

Referring to Figs. 1 and 2, a first embodiment of the adjustable garment hanger structure of the present invention comprises a dihedral support frame 10 having a pair of elongate lateral members 11a and 11b joined at the inner ends thereof at an obtuse angle, a generally bracket shaped clamping frame 20 provided under the support frame, and a pair of elongate rounded shoulder members 30a and 30b with tapering cross sections slidably mounted over the outer portions of the respective lateral members.

As shown in Fig. 3, each lateral member has a roughly I-shaped cross-section with a recessed guide 111 formed along either side thereof. A linear sequence of raised teeth formed along the inner wall of the guide defines a row of recessed catches 112 in the spaces therebetween. The row of catches extends from an obturating wall 113 on the outer terminal end of the corresponding lateral member to a terminating blocking protrusion 114 formed on the inner wall of the guide at a predetermined medial position thereon.

Referring also to Figs. 4 and 5, each shoulder member has a semicircular cross-section that is enlarged along the outer sections thereof. An axial cavity 31 formed therein is adapted to receive the rounded axial upper portion of a corresponding lateral member, 11a or 11b, when the shoulder member is slidably engaged thereover. A pair of reentrant sides 32 formed below the cavity and to either respective side thereof protrude inwardly into respective guides 111 of the lateral member. An inwardly directed finger 33 is formed at predetermined opposing positions on each

reentrant side 32 near the inner end of the shoulder member and engages a corresponding catch 112 on a respective side of the lateral member. The finger has sufficient resilience to enable the sliding of the shoulder member to a desired position on the lateral member, the engagement with a corresponding catch thereat serving to retain the adjustment. Reentrant sides 32 extend from the inner terminal end of a corresponding shoulder member along a substantial portion of the length thereof. The inner ends of the reentrant sides abut corresponding blocking protrusions 114 in the lateral member when shoulder member 30 is at a fully retracted position thereon. Conversely, the outer ends of sides 32 abut obturating wall 113 when the shoulder member is fully extended outwards from the lateral member. To aid the alignment of the shoulder members with a corresponding lateral member a pair of guide walls 34 extend downward from the upper walls thereof and abut respective edges of the upper portion of the I sectioned lateral members. A pair of generally rectangular notches 115 are formed on the upper portions of each lateral member over the positions of the blocking protrusions therein to facilitate the mounting of the shoulder members thereover, the reentrant side portions of the shoulder members being snap fitted thereover.

The shoulder members, 30a and 30b, can thus be moved outwards from respective lateral members, 11a and 11b, to adjust the width of the garment hanger.

Clamping frame 20 includes a pair of vertical bars, 21a and 21b, secured on the upper ends thereof to the undersides of respective lateral members 11a and 11b, and an elongate transverse bar 22 having a generally semicircular cross-section interconnected across the lower ends of the vertical bars. Each vertical bar has a generally oval shaped cavity 211 formed along the front and rear faces thereof, with each cavity having a row of catches 212 defined therein by a set of raised teeth as with the lateral members. An elongate slat like clamping member 23 parallelly disposed over the transverse bar has a pair of reentrant slots, 231 and 232, formed on

respective tapered ends thereof that are adapted to engage corresponding vertical bars 21a, 21b and the cavities 211 therein, as shown in Fig. 6, so as to slidably retain the clamping member over the transverse bar. A pair of resilient, opposed and inwardly directed fingers 234 formed at each terminal end of the clamping member, at the entrance to slots 231 and 232, engage catches 212 in corresponding cavities 211 of the respective vertical bars, so as to likewise retain the slid position of the clamping member.

Pants, trousers and similar garment articles could thus be folded over transverse bar 22 and held in place on the garment hanger by clamping member 23, as is shown in Fig. 7, noting also that the rounded upper portion of the transverse bar and flat underside of the clamping member aids in preventing wrinkling or creasing of the garment articles.

To further increase the versatility of the garment hanger an elongate hooking appendage 40 is provided on the lower end of each vertical bar 21a, 21b extending laterally outwards therefrom, and a generally bracket shaped auxiliary frame 50 is provided under support frame 10 within the clamping frame. As depicted in Fig. 8, a skirt or similar garment article can be appropriately carried by the garment hanger by passing corresponding belt loops thereof through the hooking appendages 40 on either side of the clamping frame. Smaller garment articles such as ties, scarves, etc. can be conveniently carried by folding them over the lower bar of the auxiliary frame 50, as in Figs. 7 and 8.

A swivel hook 60 is attached to the apex portion of support frame 10 to facilitate the positioning of the garment hanger on a support rod, the hook having an elastic split shank 61 with an enlarged head to snap fit through a pivot hole 101 formed in the apex of the support frame. To facilitate the vertical linking of the hangers, a semicircular bend 51 is centrally formed on the lower bar of the auxiliary frame 50, the hook of a lower hanger being engagable with the bend 51 of a superior hanger.

Referring to Fig. 9, a second embodiment of the garment hanger structure of the present invention comprises a pair of clothes hanger

attachments including an attachment member 70, a slide member 80, and a clamp member 90, mounted on the sloping shoulder support wires 1a of a conventional wire frame clothes hanger 1.

The elongate slide member 80 is slidably positionable on attachment member 70 and can be extended beyond the outer lateral sides of the wire frame hanger 1 to increase the width thereof. While the clamp member 90 is pivotably secured to the inner end of the attachment member and has a clothespin type clamp provided on the lower end thereof, being normally aligned in a vertical direction on the hanger.

Referring to Fig. 10, elongate attachment member 70 has a generally U-shaped cross-section and an axial slot 71 formed along the lower side thereof. A semicircular receiving cavity 72 is formed along the inner termination of slot 71 and is adapted to receive a shoulder support wire 1a of the hanger. As the diameter of cavity 72 is slightly greater than the width of the slot, each attachment member 70 can be frictionally inserted over and along a corresponding support wire 1a of the hanger and retained thereon.

As shown in Fig. 11, slide member 80 has a closed outer end and reentrant sides 81 formed along an inner portion thereof, extending to the open inner end thereof. Each reentrant side 81 engages a corresponding guide groove 73 formed along the front and rear sides of the attachment member to slidably secure the slide member thereover. An inwardly protruding resilient finger 82 is formed on each side 81 near the inner end of the slide member, and is engaged with a corresponding row of catch recesses 74 formed along each guide groove 73 to retain the position of the slide member thereover, in like fashion as with the previous embodiment. To facilitate the slide positioning of the slide member, a raised hatching area 83 is provided on opposing sides thereof, aiding a user's grip thereon.

Referring to Fig. 12, the elongate clamp member 90 includes a distal bar 91 having a stepped lower end 911 and a holed upper end pivotably secured to an inner end portion of a corresponding attachment member. A snap fitting

pin 92 having a split first end and an enlarged head formed on either end thereof is inserted through a pair of through holes 75 formed on the inner end portion of the attachment member, and the holed upper end of the distal bar 91 in registry therewith.

A clothespin type clamp 93 is provided on the lower end of the distal bar 91 with a rear jaw thereof being formed integrally with the bar, adjacent with and below the step 911 thereon.

With the distal bar 91 rotated to a vertical position on hanger 1, a first semicircular notch 911a on the lower side of step thereof would press against a cross wire 1b of the hanger to restrain the position of the clamp member and reinforce the structure of the hanger, significantly increasing its rigidity. Alternately, a second notch 911b on the upper side of step 911 could be used wherein the step would be disposed below the cross wire 1b.

Thus, varied garment articles could be carried by the adjustable shoulder portions of the hanger or suspended from the clamps 93 thereon with a wire hook 1c on the hanger providing attachment to a rod support.

CLAIMS

1. An adjustable garment hanger comprising:

a dihedral support frame having two elongate lateral members joined at the inner ends thereof and defining an obtuse angle therebetween, each said lateral member having at least one row of recessed catches formed along a substantial portion of the length thereof;

a pair of elongate shoulder members slidably mounted on respective said lateral members, each said shoulder member having an inwardly protruding resilient finger engaged with each said row of recessed catches so as to enable the slide positioning of said slide member on a corresponding said lateral member;

a clamping frame having a pair of vertical bars with the upper ends thereof adjoined with an underside of respective said lateral members, an elongate transverse bar adjoining the lower ends of said vertical bar, an elongate clamping member slidably mounted on the ends thereof to respective said vertical bars in a parallel position over said transverse bar, each vertical bar having at least one row of recessed catches formed along a substantial portion of the length thereof with a resilient finger on a corresponding end of said clamping member engaged therewith so as to enable the slide positioning of said clamping member over said transverse bar;

an attachment means for suspending said garment hanger structure from a support rod provided on an upper portion thereof.

2. An adjustable garment hanger according to claim 1, wherein said attachment means comprises a swivel hook rotatably secured to the

apex of said support frame.

3. An adjustable garment hanger according to claim 1 or claim 2, comprising a pair of hooking appendages provided on a lower portion of said clamping frame at respective lateral sides thereof.

4. An adjustable garment hanger according to any one of the preceding claims, comprising a generally bracket shaped auxiliary frame provided under said support frame and within said clamping frame.

5. An adjustable garment hanger according to claim 4, wherein a rounded depressed bend is formed on a lower bar of said auxiliary frame.

6. An adjustable garment hanger substantially as herein before described with reference to figures 1 to 8 of the accompanying drawings.

7. An adjustable garment hanger comprising:

a conventional wire frame clothes hanger having a pair of sloping shoulder support wires, an adjoining lower cross wire, and an upper wire hook;

a pair of adjustable attachment assemblies mounted on respective said shoulder support wires, each said adjustable attachment assembly comprising;

a) an elongate attachment member having an axial slot formed along the length thereof, said attachment member being frictionally slidable on a corresponding said shoulder support wire with said shoulder support wire being disposed within said slot, said attachment member having at least one row of recessed catches formed along a substantial portion of the length thereof;

b) an elongate slide member slidably mounted on said attachment member, said slide member having an inwardly protruding resilient finger therein engaged with each said row of recessed catches of said attachment member to enable the slide positioning of said slide member thereon;

c) an elongate clamp member having a distal bar and a clothespin type clamp provided on the lower end thereof, the upper end of said distal bar being pivotably secured to an inner end portion of said attachment member,

said clamp member being disposed in a vertical orientation on said garment hanger structure to abut said cross wire of said wire frame clothes hanger.

8. An adjustable garment hanger according to claim 7, wherein a step is formed on the lower end of said distal bar with said clamp adjacent therewith, said step having at least one notch formed on corresponding sides thereof for engaging said cross wire of said wire frame clothes hanger.

9. An adjustable garment hanger substantially as herein before described with reference to figures 9 to 12 of the accompanying drawings.

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(i) UK Cl (Edition K) A4L LBKA

(ii) Int Cl (Edition 5) A47G

Databases (see over)

(i) UK Patent Office

(ii) ONLINE DATABASE: EDOC, WPI

Search Examiner

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Documents considered relevant following a search in respect of claims

1-9

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
	NONE	

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Category	Identity of document and relevant passages	Relevant to claim(s)

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